

CLAIMS

1. An arch support device, comprising:

2 a support member having a periphery shaped to conform to at least
4 part of the periphery of the sole of a wearer's footwear, the member having
an upper surface, a lower surface, and being contoured to follow the
6 contours of the sole of a wearer's foot, the member having a heel region at
one end, an arch region, and a toe region at an opposite end, each region
being designed to lie under the corresponding regions of a wearer's foot
8 when in use;

at least the heel region of the lower surface having a slip-resistant
10 surface portion for resisting slipping of the element relative to the sole of a
shoe in which it is inserted, the slip-resistant surface portion having a surface
12 roughness of not more than 0.02 inches peak to valley.

2. The device as claimed in claim 1, including a second slip-resistant
2 surface portion in the toe region of the lower surface of the arch support
member.

3. The device as claimed in claim 1, wherein the upper surface of the
2 arch support member has a slip-resistant surface portion extending over at
least part of the upper surface.

4. The device as claimed in claim 3, wherein slip-resistant portions are
2 provided in predetermined areas of the heel region and toe region of the
upper surface.

5. The device as claimed in claim 1, wherein the slip-resistant portion
2 extends over the entire lower surface of the arch support member.

6. The device as claimed in claim 5, wherein the entire upper surface of
2 the arch support member has a roughened surface texture identical to that
of the lower surface.

7. The device as claimed in claim 1, wherein the slip-resistant portion
2 comprises a frosted surface texture formed in the arch support member.

8. The device as claimed in claim 7, wherein the frosted surface texture
2 extends over the entire lower surface of the arch support member.

9. The device as claimed in claim 7, wherein the upper surface of the
2 arch support member has a frosted surface texture extending over at least
part of the upper surface.

10. The device as claimed in claim 9, wherein the frosted surface texture
2 extends over the entire upper surface of the arch support member.

11. The device as claimed in claim 1, wherein the slip-resistant portion
2 comprises a layer of a slip-resistant material secured to the lower surface of
the arch support member.

12. The device as claimed in claim 11, wherein the slip-resistant material
2 is rubber.

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2 13. The device as claimed in claim 11, wherein the lower surface of the
4 member has an indent in the heel region, and the slip-resistant layer
comprises an insert secured in the indent with an outer surface substantially
flush with the lower surface of the arch support member.

2 14. The device as claimed in claim 13, wherein the lower surface has a
second indent extending across the toe region, and a second insert of slip-
resistant material is secured in the second indent.

2 15. An arch support device, comprising:

4 a member having a periphery shaped to conform to at least part of the
periphery of the sole of a wearer's footwear, the member having an upper
surface, a lower surface, and being contoured to follow the contours of the
sole of a wearer's foot, the member having a heel region at one end, an arch
region, and a toe region at an opposite end, each region being designed to
lie under the corresponding regions of a wearer's foot when in use; and

8 a textured, slip-resistant surface portion extending over at least part
of at least one of the surfaces of the arch support member, the slip-resistant
surface portion covering an area equal to at least one quarter of the total
surface area of the lower surface.

2 16. The device as claimed in claim 15, wherein the slip-resistant surface
portion is provided in the lower surface.

2 17. The device as claimed in claim 15, wherein the slip-resistant surface
portion is provided in the upper surface.

18. The device as claimed in claim 15, wherein textured, slip-resistant surface portions are provided on both the upper surface and the lower surface of the arch support member.

19. The device as claimed in claim 15, wherein the slip-resistant portion comprises a frosted surface texture.

20. The device as claimed in claim 19, wherein the entire lower surface of the arch support member has a frosted surface texture.

21. The device as claimed in claim 20, wherein the entire upper surface of the arch support member has a frosted surface texture.

22. The device as claimed in claim 15, wherein the slip-resistant portion comprises an injection molded surface finish produced by a sand-blasted mold surface.

23. The device as claimed in claim 15, wherein the slip-resistant portion has a surface roughness in the range from 0.0005 to 0.02 inches.

24. The device as claimed in claim 23, wherein the slip-resistant portion has a surface roughness in the range from 0.001 to 0.002 inches.

25. An arch support device, comprising:

a member having a periphery shaped to conform to at least part of the periphery of the sole of a wearer's footwear, the member having an upper surface, a lower surface, and being contoured to follow the contours of the sole of a wearer's foot, the member having a heel region at one end, an arch

6 region, and a toe region at an opposite end, each region being designed to
lie under the corresponding regions of a wearer's foot when in use; and

8 a textured, slip-resistant surface portion extending over at least part
of at least one of the surfaces of the arch support member, the slip-resistant
10 surface portion comprising a random, frosted, injection molded surface
texture [produced by a sand-blasted mold surface]

26. A method of manufacturing an arch support device, comprising the
2 steps of:

3 providing a mold of predetermined shape and dimensions for forming
4 a one-piece arch support member having a periphery shaped to conform to
at least part of the periphery of the sole of a wearer's footwear, the member
6 having an upper surface, a lower surface, and being contoured to follow the
contours of the sole of a wearer's foot, the member having a heel region at
8 one end, an arch region, and a toe region at an opposite end, each region
being designed to lie under the corresponding regions of a wearer's foot
10 when in use;

the mold having a first surface for forming the upper surface of the
12 arch support member and a second surface for forming the lower surface of
the arch support member;

14 roughening at least one of the first and second surfaces over at least
part of the area of the surface to form a surface roughness in the range of
16 0.005 to 0.05 inches peak to valley;

injecting molten plastic material into the mold; and
18 allowing the plastic material to harden before releasing the molded
arch support member from the mold, the surface of the arch support member
20 corresponding to the sand-blasted surface in the mold having a frosted, slip-
resistant surface texture corresponding to the area of the mold surface which

22 was sand-blasted.

27. The method as claimed in claim 26, wherein the step of roughening
2 the mold surface comprises roughening the entire area of the mold surface.

28. The method as claimed in claim 26, including the step of roughening
2 both mold surfaces, whereby the molded arch support member has a frosted,
slip-resistant surface texture on both its upper and its lower surface.

29. The method as claimed in claim 26, wherein the step of roughening
2 the mold surface comprises sand-blasting at least part of the mold surface.

30. The method as claimed in claim 29, including the step of sand-blasting
2 both surfaces of the mold, whereby the molded arch support member has
a frosted, slip-resistant surface texture on both its upper and its lower
4 surface.

31. The method as claimed in claim 29, wherein the sand-blasted surface
2 of the mold has a surface roughness in the range from 0.001 to 0.01 inches.

32. The method as claimed in claim 31, wherein the surface roughness is
2 in the range from 0.001 to 0.002 inches.